

## PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference TMP-2034PCT	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/US2004/006377	International filing date (day/month/year) 02.03.2004	Priority date (day/month/year) 15.04.2003	
International Patent Classification (IPC) or national classification and IPC B23C5/22			
Applicant TDY INDUSTRIES, INC. et al.			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a.  sent to the applicant and to the International Bureau a total of sheets, as follows:
    - sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b.  (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand  22.10.2004	Date of completion of this report  11.03.2005
Name and mailing address of the International preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Kornmeier, M  Telephone No. +49 89 2399-7250



# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/US2004/006377

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:  
 international search (under Rules 12.3 and 23.1(b))  
 publication of the international application (under Rule 12.4)  
 international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements\* of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

### Description, Pages

1-13 as originally filed

### Claims, Numbers

1-33 as originally filed

### Drawings, Sheets

1/9-9/9 as originally filed

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:

- the description, pages  
 the claims, Nos.  
 the drawings, sheets/figs  
 the sequence listing (*specify*):  
 any table(s) related to sequence listing (*specify*):

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages  
 the claims, Nos.  
 the drawings, sheets/figs  
 the sequence listing (*specify*):  
 any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	13,27,31
	No:	Claims	1-12,14-28,29,32,33
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-33
Industrial applicability (IA)	Yes:	Claims	1-33
	No:	Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Re Item V.**

- 1 The following documents are referred to in this communication:

D1: US-A-4 679 968 (HASEGAWA RYOEI ET AL) 14 July 1987 (1987-07-14)  
D2: EP-A-1 013 365 (PLANSEE TIZIT AKTIENGESELLSCHA) 28 June 2000  
(2000-06-28)  
D3: DE 42 44 316 A (KRUPP WIDIA GMBH) 30 June 1994 (1994-06-30)  
D4: US 2003/059262 A1 (MEN YURI) 27 March 2003 (2003-03-27)  
D5: US-A-6 164 878 (SATRAN AMIR ET AL) 26 December 2000 (2000-12-26)  
D6: US-A-6 017 171 (KARLSSON ROLF) 25 January 2000 (2000-01-25)

**2 INDEPENDENT CLAIM 1**

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT. Document D1 discloses (the references in parenthesis applying to this document):

A cutting tool (138), comprising: at least one insert pocket (140) in the tool holder; and at least one antirotation stop (142) corresponding to said at least one insert pocket (140), wherein the antirotation stop (142) comprises at least two substantially planar surfaces.

- 2.2 The present application does also not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT with respect to Document D2 (see Fig. 3).

**3 INDEPENDENT CLAIM 17**

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 17 is not new in the sense of Article 33(2) PCT. Document D1 discloses (the references in parenthesis applying to this document):

A cutting tool (138), comprising: at least one insert pocket (140) in the tool holder; at least one antirotation stop (142) protruding from at least one of a side wall and

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the bottom surface of the insert pocket (140), wherein the antirotation stop (142) comprises at least two substantially planar surfaces.

- 3.2 The present application does also not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 17 is not new in the sense of Article 33(2) PCT with respect to document D2 (see Fig. 3) and document D3 (see Fig. 1-3, 6 and col. 3, lines 40-68).

**4 INDEPENDENT CLAIM 30**

The present application does also not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 30 is not new in the sense of Article 33(2) PCT with respect to document D3 (see Fig. 1-3, 6 and col. 3, lines 40-68) and document D4 (see paragraph 101 and Fig. 4,6 and 10). These documents clearly disclose a cutting insert provided with partially spherical recesses.

**5 INDEPENDENT CLAIM 32**

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 32 does not involve an inventive step in the sense of Article 33(3) PCT.

From the geometry of the insert seat disclosed in document D2 in Fig. 3 it is implicitly disclosed or at least obvious to the man skilled in the art to perform tangential milling in order to obtain the intended shape of side walls and of the planar surfaces of the protrusion (9) of the insert seat (cf. also document D6 and the corresponding passages cited in the search report).

**6 DEPENDENT CLAIMS 2-16, 18-29, 31 and 33**

With respect to documents D1-D6, dependent claims 2-16, 18-29, 31 and 33 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) for the following reasons:

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- 6.1 The additional subject-matter of claims 2-12, 14-16, 18-26 and 28 is disclosed by document D1.
- 6.2 The remaining claims 13, 27, 31 and 33 concern a slight constructional change in the shape of the recess cooperating with said protrusion and normal production proceeding, respectively, which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen (see e.g. document D3, Fig. 2b, 3 and 6 and col. 3, lines 40-68 and document D2 and D6, respectively). Consequently, the subject-matter of claims 13, 27, 31 and 33 also lacks an inventive step.
- 7 Although claims 1, 17, 30 and 32 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 8 Independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT.
- 9 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).